Niveau(x) d'enseignement: 4 Numéro EDUQ : 0270396
Centre d'intérêt: 74

Genesee, Fred.

Evaluation of the 1974-75 grade 11 French immersion class / F. Genesee, S. Chaplin. -- [Montréal] : Commission des écoles protestantes du Grand Montréal, Curriculum Department, 1976.
30, [15] p. ; 38 cm.

Titre de la couv. "A report submitted by the Curriculum Department to the Protestant School Board of Greater Montreal". Bibliographie: p. [31].

Cote Dewey: 440.7/G327e Cote LC: PC/2066

Descripteur(s): *Français (Langue) *Langue seconde *Classe d'immersion *Evaluation de l'apprentissage *Evaluation de programmes *Secondaire (Niveau)

L'étude vise à évaluer les habiletés en anglais, en français et en mathématiques d'élèves ayant été inscrits à un programme d'immersion française de septième année en 1970-1971, et cela quatre ans plus tard, en 1974-1975, alors qu'ils sont inscrits en onzième année. Les résultats de ces élèves sont comparés à ceux de groupes témoins francophone et anglophone. Une étude analogue avait été réalisée, l'année précédente, auprès des élèves du programme d'immersion française de septième année de 1969-1970.

Au total, 120 élèves de six écoles de la région de Montréal ont participé à l'enquête: 46 avaient suivi un cours d'immersion française en 1970-1971, alors qu'ils étaient en septième année; par ailleurs, 30 constituent le groupe de contrôle anglophone et 44 le groupe de contrôle francophone. Les tests ont été administrés en avril 1975, sauf deux qui l'ont été en décembre 1974. Les instruments suivants étaient utilisés: trois sections du "California achievement test", les Tests de rendement en français et en mathématiques de la CECM ainsi que des tests de lecture, de compréhension auditive et de production orale en français. Les résultats aux examens de sortie du secondaire du ministère de l'Education sont également pris en considération.

Alors que les élèves du groupe d'immersion démontrent les mêmes habiletés en anglais que le groupe témoin anglophone, ils démontrent des résultats nettement supérieurs en ce qui concerne la maîtrise du français. Leurs résultats aux Tests de rendement de la CECM sont remarquables. Par ailleurs, les résultats aux examens du Ministère indiquent que les élèves des classes d'immersion réussissent aussi bien que leurs confrères de l'enseignement régulier et que, lorsqu'ils rédigent ces examens en français, ils réussissent aussi bien que les francophones.

Type de document: r

Région(s) administrative(s): 063
Notice(s) connexe(s): 8270389
Financement: Bénéficiaire - BEPGM
Organisme(s) source(s) - MEQ - DGEES
Programme(s) de subvention - PDEL
Auteur de l'analyse: ar

E D U Q 8270386

Evaluation of the 1974-75 Grade 11 French Immersion Class

F. Genesee

S. Chaplin

A report submitted by the Curriculum Department

to

THE PROTESTANT SCHOOL BOARD OF GREATER MONTREAL

April 1976

E D U Q 8270386

ACKNOWLEDGEMENTS

We would like to express our thanks to the principals, teachers and students in the schools which participated in this research. A special note of thanks is due to La Commission des Ecoles Catholiques de Montréal for permission to use their Tests de Rendement and to the principal and students of the French Control school.

We would also like to express our appreciation to the following people for their helpful comments on sections of this report: M.H.Stanley, Director of Curriculum, G.Cochrane, Assistant Director of Curriculum, F.Méloul, Coordinator of French Programmes, and G.R.Tucker, Associate Professor, McGill University.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
THE SAMPLE	2
TEST BATTERY:	
English Language Tests	5
French Language Tests	6
RESULTS:	
English Language Tests	9
French Language Tests:	9
Analysis 1F	11
Analysis 2F	13
Department of Education Leaving Examination Results	15
SUMMARY AND CONCLUSIONS	28
REFERENCES	

APPENDICES:

a) Explanation of Stanine Scores

b) Explanation of Statistical Terminology

c) Summary of 1973-1974 Grade II English Language Test Results

d) Summary of 1973-1974 Grade II French Language Test Results

e) Summary of Newman-Keuls Test Results for Analysis 2F

The present report presents the results of an evaluation of the second group of students to graduate from the grade 7 French Immersion and follow-up program. This program is in its sixth year, having been introduced in September 1969. In its first year of existence there were nine classes of students at the grade 7 level. In its second year (1970-71),the program had grown to include 32 classes at the grade 7 level. The students who participated in the present research were graduates of the second year classes. As with last year's French immersion graduating class (see Genesee, Allister & Morin, 1974, for an evaluation of this group), the 1974-75 graduates were somewhat select in that the majority of the students were academically average or above average.

The results of the evaluation of the 1973-74 secondary 5 French immersion group (Genesee, Allister & Morin, 1974) indicated that there were no statistically significant differences between immersion and non-immersion students on tests of English Language Skills - - reading, spelling, vocabulary and writing. However, to their advantage, the immersion students had acquired a much greater functional knowledge of French than had the non-immersion students - - the reading and listening comprehension skills of the immersion students were better than were those of the non-immersion students; as well, the immersion students were more able, and more willing, to speak French.

There was evidence to suggest that performance on the tests of academic French language skills, reading and language use, depended upon the students' intellectual level, as measured by a standardized test of intelligence. In particular, students with above average I.Q. scores scored significantly higher than students with average I.Q. scores on the Test de Lecture, the Tests de Rendement en Français and en Mathématiques. On the other hand, there was no evidence to suggest that speaking and listening comprehension skills in the French language were similarly influenced by I.Q. In other words, the average students were rated as highly as the above average students when speaking and listening to French.

There were no noticeable differences between the immersion and non-immersion students in terms of their attitudes and perceptions of themselves and of various ethnolinguistic groups; for example, French Canadians, Americans and English Canadians.

The results of a questionnaire of the students' attitudes toward the French immersion program itself (Genesee, 1974) indicated that, in general, the French immersion students liked French immersion and would recommend it to others. Interestingly, the immersion students reported that the most important reasons for taking the program were of an instrumental sort (e.g. for better job opportunities in Québec); integrative reasons (e.g. to participate in the French culture) were rated somewhat less important.

The current evaluation was undertaken as a follow-up to the first assessment.

THE SAMPLE

Three groups of students participated:

1) Immersion Group: students who had enrolled in the grade 7 French Immersion program in September 1970 and who had taken some of the follow-up French courses in grades 8 to 11. This group included students who were taking French in grade 11 as well as those who were not, either because they had written their French leaving examination in grade 10 or simply because they had stopped taking the special post-immersion courses. There was an insufficient number of students in each of these two groups to warrant looking at them separately;

2) English Control: students who had taken the regular English program with French-as-a-second-language courses in grades 7 to 11; and

3) French Control: French-speaking students from a French Catholic school of La Commission des Ecoles Catholiques de Montréal. This school was located in a predominantly middle class neighborhood in the West End of the Island of Montréal.

The approximate number of students in each group and the specific schools that participated are presented in Table I. As is evident from the list of schools, a fairly wide range of socio-economic milieux are represented.

TABLE I

List of Schools

IMMERSION	ENGLISH CONTROL	FRENCH CONTROL
Malcolm Campbell	Malcolm Campbell	
Sir Winston Churchill	Sir Winston Churchill	
Verdun	Verdun	Anonymous
Wagar	Wagar	
Westhill	Westhill	

SAMPLE SIZES

	ABOVE AVERAGE		AVERAGE	
	Male	Female	Male	Female
IMMERSION	11	12	11	12
ENGLISH CONTROL	10	5	8	7
FRENCH CONTROL			19	25

All of the English-speaking students were classified as either average in I.Q. (96-115) or above average (116 and above). It was not possible to include a below average group because of the select nature of this student group, as mentioned in the Introduction. I.Q. scores were based on the students' performance on the Canadian Lorge-Thorndike Intelligence Test (1967) which they had written in grade 9, 1972-73.

I.Q. scores were not available for the French Control students. We were, however, assured by both the principal and the District Superintendent of the school that this particular school includes an average group of students. Their performance on the Tests de Rendement en Français and en Mathématiques confirms their contentions - - Test de Rendement en Français, 5.36 stanine; Test de Rendement en Mathématiques, 5.52 stanine; (a stanine score of 5 is "average").

There was an approximately equal number of boys and girls in each group.

There were general difficulties in carrying out this project in the schools which participated. This accounts for the generally small sample sizes.

TEST BATTERY

The evaluation included three areas:

1) English language skills;
2) French language acquisition; and
3) Department of Education Leaving Examination Results.

All tests, except two of the French language tests, were administered in April, 1975. Two of the French tests, the Test de Rendement en Français (IX) and the Test de Rendement en Mathématiques (IX) were administered in December 1974.

The Immersion group and the English control group took all three groups of tests; the French Control group took only the French language tests.

Each test will be described briefly before the results are presented.

ENGLISH LANGUAGE TESTS

1) Reading

The Reading Comprehension subtest of the California Achievement Test (C.A.T., 1970), Form 5A, was administered. This is a standardized, timed, group test. Raw scores were analyzed statistically.

2) Vocabulary

The Vocabulary subtest of the C.A.T., as above, was administered. Again raw scores were analyzed.

3) Spelling

The Spelling subtest of the C.A.T., as above, was administered. Raw scores were analyzed statistically.

FRENCH LANGUAGE TESTS

1) Reading

A modified version of the Test de Lecture "California", Cycle Inférieur, was administered. This test is designed for use with native French-speaking students. It consists of six subtests. The first four subtests assess knowledge related to four areas of vocabulary; namely, mathematical, scientific, social and general. The last two subtests assess comprehension of written directions and connected prose. For the sake of the current analysis, subtests I to 4 were combined to form one sub-score, Vocabulaire, with a maximum possible score of 90, and subtests 5 and 6 were combined to form a second sub-score, Compréhension, with a maximum possible score of 26.

2) Test de Rendement en Français (IX)

This is a standardized test designed and published by La Commission des Ecoles Catholiques de Montréal (C.E.C.M.). The Grade IX level was administered because this is the highest level they offer. The test consists of 35 multiple-choice items which assess the following types of verbal skills - - parts of speech, vocabulary, spelling, and word knowledge. Raw scores were converted to stanine form (see Appendix A for an interpretation of stanines) for statistical analysis. This test was administered in December 1974, to coincide more closely with the standardized November testing time of the C.E.C.M.

3) Test de Rendement en Mathématiques

Again, this is a test designed by the C.E.C.M. The Grade IX level was administered for the same reasons as above. Not all of the 32 items in this test are appropriate for the students in the P.S.B.G.M. owing to differences in the mathematics curricula. Again, raw scores were converted to stanine form for statistical analysis. This test was administered in December, 1974, for the same reasons outlined above.

4) Compréhension Aurale (groupe)

The students listened to an edited version of a CBF radio, news broadcast. They answered 13 multiple-choice questions based on the news items in the broadcast. This was a standardized group test.

5) Production Orale

Because the analysis of oral production skills is very lengthy, not all students who had taken the other French tests were evaluated in this part of the assessment. Instead, a sub-sample of the original sample was selected for evaluation. The sub-samples were selected so that, as much as possible, there would be an equal number of boys and girls from each School Group. As well, for the anglophone groups, the sub-samples were selected so that there would be an equal number of students in the average and above average categories. This was not possible for the French Control Group since I.Q. scores were not available. Table 2 presents the actual sample sizes.

Each student was interviewed individually by a native-French speaker. In the first part of the interview, the student was asked to describe a cartoon picture. Subsequently, in the second part, he/she was engaged in a short conversation with the interviewer on topics related to the cartoon or the student's school experiences. The interviews were tape recorded for later analysis.

	Above Average	Average
IMMERSION	19	20
ENGLISH CONTROL	13	12
FRENCH CONTROL	14	14

TABLE 2
SAMPLE SIZES FOR EVALUATION
OF ORAL PRODUCTION SKILLS

Each student's speaking skills were evaluated by two raters working independently, on five different dimensions: compréhension aurale, prononciation, grammaire, vocabulaire, and communication. The communication dimension was intended to assess the student's willingness to speak French and his/her comfort while doing so. The ratings ranged from a maximum of 5, indicating excellent or native-like skill, to a minimum of 1, indicating very poor skill. The raters were native French-speaking Canadians. They were not necessarily trained in linguistics. It was felt desirable to employ untrained native-French speakers since in most day-to-day situations when we speak a second language we are evaluated by non-trained people. The ratings of both raters were combined to form an average score on each dimension for each student.

RESULTS

For a brief explanation of the relevant statistical terminology that will be used in this section of the report, see Appendix B.

ENGLISH LANGUAGE TESTS

Separate analyses of variance were performed on the results from the following tests: Vocabulary, Reading and Spelling. The main variables were School Group (Immersion, English Control) and I.Q. (above average, average). A summary of these analyses is presented in Table 3.

There were no significant differences between the groups on any of these tests - - all groups scored at the same level. In terms of percentile scores, the groups scored at the following levels: Vocabulary - 68%; Reading - 66%; and Spelling - 68%. In terms of a stanine score, the groups scored at the 6th stanine level on all three tests. These norms are based on an American sample.

As expected, there were significant differences between the above average and average students on all three tests - - the above average students scored consistently higher than the average students.

FRENCH LANGUAGE TESTS

Two sets of analyses (1F, 2F) were performed on the results from the French language tests: Test de Lecture (Vocabulaire, Compréhension), Tests de Rendement (en Français, en Mathématiques), compréhension aurale en groupe, production orale (compréhension aurale, prononciation, grammaire, vocabulaire, communication).

In Analysis 1F, only the Immersion and English Control groups were included; the French Control group was excluded. The analyses differentiated between above average and average students. This analysis was performed (1) to compare the two anglophone groups on the French language tests; and (2) to compare the achievements of above average and average students from both programs on the French language tests. A summary of these analyses is presented in Table 3.

TABLE 3

SUMMARY OF ENGLISH AND FRENCH LANGUAGE TEST RESULTS - - ANALYSIS IF
- EXCLUDING FRENCH CONTROL -

ENGLISH LANGUAGE TESTS California Ach. Tests	Immersion	English Control	F Ratio	df	Above Average	Average	F Ratio	df
VOCABULARY	33.02	31.87	1.07	1,70	34.19	30.92	8.91**	1,70
READING	33.89	33.63	.05	1,70	34.92	32.65	4.17*	1,70
SPELLING	25.65	24.63	1.27	1,71	26.51	23.77	9.27**	1,71
FRENCH LANGUAGE TESTS - - ANALYSIS IF								
TEST DE LECTURE:								
VOCABULAIRE	67.85	57.60	20.97***	1,68	65.16	60.28	4.76*	1,68
COMPREHENSION	19.96	16.75	14.45***	1,68	19.59	17.12	8.56**	1,68
TEST DE RENDEMENT								
EN FRANCAIS (IX)	5.98	3.95	36.10***	1,71	5.59	4.34	36.10***	1,71
EN MATHEMATIQUES (IX)	7.84	7.53	1.11	1,69	8.09	7.29	7.22**	1,69
COMPREHENSION AURALE (GROUPE)	5.89	5.02	3.41[1.]	1,61	5.82	5.08	2.53	1,61
PRODUCTION ORALE:								
COMPREHENSION AURALE	4.99	4.69	6.75**	1,60	4.92	4.76	2.13	1,60
PRONONCIATION	3.83	2.96	25.91***	1,60	3.75	3.03	17.72***	1,60
GRAMMAIRE	4.37	3.63	30.28***	1,60	4.22	3.78	10.88**	1,60
VOCABULAIRE	4.00	2.89	21.66***	1,60	3.66	3.25	2.93	1,60
COMMUNICATION	3.69	2.73	22.69***	1,60	3.44	2.98	6.77**	1,60

* $p < .05$; ** $p < .01$; *** $p < .001$

1. $p = .07$

In Analysis 2F, the French Control group was included along with the two anglophone groups, Immersion and English Control. No differentiation according to I.Q. was possible because I.Q. information for the French Control students was lacking. A distinction between male and female students was made. These analyses were performed (1) to compare the performances of the two anglophone groups on the French language tests to that of the Francophone students; and (2) to compare the performance of male and female students from all programs on these tests. A summary of these analyses is presented in Table 4.

For a summary of last year's grade 11 evaluation results see Appendices C and D.

ANALYSIS 1F

There were significant differences between the Immersion and English Control groups on both subtests (Vocabulaire and Compréhension) of the Test de Lecture. In both cases, the Immersion group scored significantly higher than the English Control group.

There was a statistically significant difference between the groups on the Test de Rendement en Français and but not on the Test de Rendement en Mathématiques. On the Test de Rendement en Français the Immersion group scored higher than the English Control group. On the Test de Rendement en Français, both groups scored in the average stanine range (i.e. 4-5-6), with the Immersion group scoring two steps higher than the English Control group. On the Test de Rendement en Mathématiques, both groups scored in the above average range (i.e. 7-8). These results, therefore, indicate that the Immersion and English Control groups scored at the same level as the "average" grade 9 francophone student on the French test and as the "above average" grade 9 francophone student on the Mathematics test.

There was no significant difference between the groups on the group test of compréhension aurale. There was, however, a tendency ($p=.07$) for the Immersion group ($\bar{X}=5.89$) to score higher than the English Control group ($\bar{X}=5.02$).

There were significant differences between the groups on all dimensions of the oral production evaluation. In every case, the Immersion students scored higher than the English Control students. The average ratings of both groups on the dimension of compréhension aurale is particularly noteworthy (4.99/4.69 out of 5).

There were statistically significant differences between the scores of the above average and average students on both subtests of the Test de Lecture and on both Tests de Rendement (Français and Mathématiques). In every case, the above average students scored higher than the average students.

The pattern of results according to I.Q. grouping are not consistent on the listening comprehension and oral production measures. There were significant differences between the above average and average students on the prononciation, grammaire and communication dimensions of the oral production evaluation. In all three cases, the above average students scored higher than the average students. There were no statistically significant differences between the I.Q. groups on the group or individual listening comprehension measures or on the vocabulaire dimension.

In last year's evaluation (1973-74) of the pilot grade 11 immersion group (see Genesee, Allister & Morin, 1974), we found that while there were significant differences between I.Q. groups on the tests of academic language skills (reading, language use) there were no similar significant differences on any of the tests of interpersonal communication skills (listening comprehension and oral production). The results from this year's evaluation only partially corroborate these findings. The lack of complete corroboration may be due to the nature of this year's samples. This year we encountered considerable student resistance to taking the tests. In fact, many students refused to participate. It was for this reason that we had to drop the distinction, made in last year's immersion samples, between immersion students who were continuing to take extra French courses and those who were not. Thus, the samples of students who finally participated in this year's evaluation were not selected on a completely random basis and,

therefore, may have been characterized by certain pre-selection or "volunteer" biases. In any event, there was only partial support for the previous finding at the grade 11 level, as well as at earlier grade levels (Genesee, Morin & Allister, 1974, for grade 4; and Genesee, Allister & Morin, 1974, for grade 7) that the acquisition of skills related to interpersonal communication are not as dependent upon the learner's intellectual level as is the acquisition of skills related to academic language usage.

ANALYSIS 2F

A summary of these analyses is presented in Table 4. For a graphic presentation of specific statistical comparisons of the groups on each test see Appendix E. In this section, only differences between the French Control group and the Immersion and English Control groups will be discussed.

There were significant differences among the groups on both subtests of the Test de Lecture (Vocabulaire, Compréhension). On the Vocabulaire subtest, the French Control group ($\bar{X}$=74.74) scored significantly better than the Immersion ($\bar{X}$=67.91) and English Control groups ($\bar{X}$=58.18). On the compréhension subtest, the French Control group ($\bar{X}$=19.14) scored significantly higher than the English Control group ($\bar{X}$=17.16) but not higher than the Immersion group ($\bar{X}$=19.98).

We were not able to compare statistically the results of the French Control group to the results of the Immersion and English Control groups on the Tests de Rendement because we did not have individual scores for the French Control students; rather we had the average group score. Visual inspection of the average scores, however, reveals that on the Test de Rendement en Français the English Control group ($\bar{X}$=3.95) scored appreciably lower than the French Control group ($\bar{X}$=5.36) while the Immersion group ($\bar{X}$=5.98) scored somewhat higher than the French Control group. All groups scored in the near average to average stanine range.

On the Test de Rendement en Mathématiques, both the Immersion group ($\bar{X}$=7.84) and the English Control group ($\bar{X}$=7.53) scored higher than the French Control group ($\bar{X}$=5.52). This pattern of results has been noted in previous evaluations. The Immersion and English Control groups scored in the above average stanine range and the French Control group scored in the average range.

TABLE 4

SUMMARY OF FRENCH LANGUAGE TEST RESULTS - - ANALYSIS 2F

- INCLUDING FRENCH CONTROL -

	IMMERSION	ENGLISH CONTROL	FRENCH CONTROL	F RATIO	df
TEST DE LECTURE:					
VOCABULAIRE	67.91	58.18	74.74	37.40***	2,110
COMPREHENSION	19.98	17.16	19.14	6.76**	2,110
TEST DE RENDEMENT:[1.]					
EN FRANCAIS	5.98	3.95	5.36	36.10***	1,71
EN MATHEMATIQUES	7.84	7.53	5.52	1.11	1,69
COMPREHENSION AURALE	5.89	5.01	7.50	15.39***	2,103
PRODUCTION ORALE:					
COMPREHENSION AURALE	4.99	4.70	5.00	5.99**	2,86
PRONONCIATION	3.81	2.97	5.00	75.48***	2,86
GRAMMAIRE	4.37	3.64	4.96	53.03***	2,86
VOCABULAIRE	3.99	2.90	5.00	49.89***	2,86
COMMUNICATION	3.67	2.74	4.95	91.31***	2,86

** $p < .01$; *** $p < .001$.

1. These analyses did not include the French Control results and, therefore, are the same as those reported in Table 3, page 10.

There were significant differences among the groups on the test of compréhension aurale en groupe - - the French Control group ($\bar{X}$=7.50) scored significantly higher than both the Immersion ($\bar{X}$=5.89) and English Control groups ($\bar{X}$=5.01). The fact that even the francophone students scored only 7.50 out of 13 on this test suggests that it was quite difficult.

There were significant differences among the groups on all five dimensions of the oral production evaluation - - compréhension aurale, prononciation, grammaire, vocabulaire, and communication. In every case, the French Control group scored higher than the English Control group. The French Control group scored significantly higher than the Immersion group on all dimensions except that of compréhension aurale, in which case there was no difference.

There were no sex differences on any of the tests.

DEPARTMENT OF EDUCATION LEAVING EXAMINATION RESULTS

ANALYSIS I

In order to assess the academic achievement of the different groups of students under investigation, we compared their performances on the Ministry of Education Secondary School Leaving Examinations of June 1975. Because course selection at the secondary school level is individualized, not all students take the same courses and, consequently, not all write the same examinations at the end of secondary school. Therefore, we selected a number of courses which are relatively popular or are commonly taken at the secondary IV and V level. The results of the students in our different samples who wrote particular examinations were derived from the Ministry of Education reports and were subjected to analyses of covariance.

Analysis of covariance is a statistical procedure which is similar to the analysis of variance in that it is used to compare the results of two or more groups on a particular test. At the same time, analysis of covariance mathematically reduces the influence that another variable, such as I.Q., might have on the test results. For example, if two hypothetical language groups under investigation differ a priori in terms of I.Q., and if it is believed that I.Q. will significantly influence performance on the test being administered (e.g., a reading test), then an analysis of covariance will estimate the significance of the language factor, eliminating mathematically the influence of the I.Q. factor. This mathematical procedure is used where it is difficult or impossible to select groups which are equivalent in I.Q. In the current analyses it was not possible to equate the different groups (Immersion, No Longer Immersion[1.] and English Control) on I.Q. owing to the highly individualized nature of the curriculum at this level.

Table 5 summarizes the examination results of the three anglophone groups (Immersion, No Longer Immersion, and English Control) for the following courses:

English Literature	522
English Composition	522
French-Expression (second language)	522
French-Written (second language)	522
Physics	512
Chemistry	512
History	512*

Separate analyses of covariance were performed on the grade scores and percentile scores from each examination. The grade scores are derived by combining 50% of the actual examination score with 50% of a school mark after the latter has been moderated on the basis of the performance of each "teacher group" on the examination. The percentile scores represent the performance of these particular groups of students relative to all other students in the

* indicates a multiple-choice exam

1. see Footnote 1.

province of Québec who wrote these exams. In the case of these exams which are presented in English, the reference group is comprised of students from English-language high schools. Along with the average grade and percentile scores, Table 5 presents F, p and degrees of freedom values, as well as the number of students who wrote each exam. (see Appendix B for an explanation on relevant statistical terminology).

There were significant differences among the school groups on both the English Literature 522 and the English Composition 522 exams. In both cases, the English Control group scored lower than the two immersion groups in terms of grade score and percentile score. The Immersion group scored somewhat higher in terms of percentile score than the No Longer Immersion group on both the Literature and the Composition exams.

There were no statistically significant differences among the school groups on either the Physics or the Chemistry exams in terms of either grade scores or percentile scores. There was a tendency, however, for the scores of both the Immersion and the No Longer Immersion group to be numerically higher than those of the English Control group. In terms of percentile, the immersion groups scored at the 70th percentile and the English Control group scored around the 60th percentile; this was true for both Physics and Chemistry. It is interesting to note that when grade scores are examined the performance of each group is relatively consistent on the Physics and Chemistry exams and on both English exams.

There were no significant differences among the three groups on the History 512 exam. The results of the No Longer Immersion group ($\bar{X}$=79.78 grade; 75.92 percentile) were numerically higher, however, than the results of the Immersion group ($\bar{X}$=73.99 grade; 63.70 percentile) and the English Control group ($\bar{X}$=72.01 grade; 59.36 percentile).

There were significant differences among the three groups on both French exams, oral expression and written. The English Control students obtained lower grade and percentile scores than the two immersion groups,

TABLE 5

ANALYSIS I

SUMMARY OF GRADE 11 DEPARTMENTAL EXAM RESULTS

- adjusted means after Analysis of Covariance -

EXAM		Immersion	No Longer Immersion	English Control	F Ratio	df
ENGLISH LITERATURE (N=238)	Grade:	74.99	73.23	68.18	11.04***	2,234
	%ile:	72.00	67.60	54.49	13.08***	2,234
	Sample:	105	62	71		
ENGLISH COMPOSITION (N=238)	Grade:	74.10	72.91	68.62	9.92***	2,234
	%ile:	68.22	64.50	51.89	11.15***	2,234
	Sample:	105	62	71		
FRENCH ORAL (N=217)	Grade:	79.53	75.93	63.32	26.49***	2,213
	%ile:	64.73	60.62	27.62	54.78***	2,213
	Sample:	98	62	57		
FRENCH WRITTEN (N=217)	Grade:	71.82	71.48	60.18	34.85***	2,213
	%ile:	61.55	60.26	36.15	27.04***	2,213
	Sample:	98	62	57		
PHYSICS (N=113)	Grade:	69.66	73.80	61.18	2.59[1.]	2,109
	%ile:	69.03	71.38	65.29	2.81[2.]	2,109
	Sample:	53	26	34		
CHEMISTRY (N=129)	Grade:	69.55	70.44	65.08	2.96[2.]	2,125
	%ile:	70.60	70.91	62.84	2.34	2,125
	Sample:	52	33	44		
HISTORY (N=48)	Grade:	73.99	79.78	72.01	2.21[3.]	2,44
	%ile:	63.70	75.92	59.36	2.72	2,44
	Sample:	20	14	14		

*** $p<.001$
1. $p=.07$
2. $p=.06$
3. $p=.08$

which scored at about the same level as one another. These two French exams test skills in French as a second language.

In summary, the results of these analyses indicate that:

1) students from the secondary school immersion program scored at least as well as students from the regular program on English language examinations; in fact, the immersion students scored statistically higher than their peers in the regular program;

2) the immersion students scored as well as their peers in the regular program on other exams which assessed mastery of academic material (Physics, Chemistry, History); and

3) the immersion students scored much higher than the non-immersion students on examinations of French-as-a-second language.

ANALYSIS 2

In order to have a more comprehensive picture of the academic achievement of immersion students who have taken some of the optional post-immersion French courses we have summarized the results of the immersion students on the June 1975 exams.

These exams included the following: Français - - Expression oral 562-421; Français - Compréhension de Texte 560-921; Français 560-552; Français 560-542; Mathématique 211-422; Mathématique 211-522; Géographie 300-412; Histoire 305-412; Histoire 305-512; Dactylo 111-1V (40), 410-432; and Arts Plastiques 500-422. All of these exams are designed for native French-speaking students.

A summary of these results is presented in Table 6 . For each examination under consideration the following information has been included: the names of schools in the PSBGM which offered the course, the number of students who wrote the examination, the average grade score of the students who wrote the examination, and the failure rate of those who wrote it. The last three pieces of information are included for the specific schools (SCH) in the PSBGM where the course was offered, for the PSBGM (BRD) and for the province (PROV) as a whole. The provincial results represent the average performance of all students in the province of Québec who wrote the exam in 1975; the vast majority of these students were French-speaking. The school results simply represent the average performance of all students in the schools listed who wrote the exam; all of these students were English-speaking. The board results represent the average of all students in the PSBGM who wrote the exam. The school scores and the board scores differ in that de Roberval High School, a French language school, is included in the board average. Along with the results of the above listed French exams, we have included similar information for the corresponding English exams (e.g., Géographie 412/Geography 412). This information was examined in order to assess the achievement of French immersion students taking the optional post-immersion French courses relative to the achievement of their peers in the regular program taking the analogous English courses throughout the PSBGM. In this case, the school results have not been included because they are the same as the board results. Interpretation of these results must of course take into account the differentiating characteristics of the students who populate these two programs.

Three types of comparisons can be derived from these data:

(1) looking only at the exams in French - - compare the school results to the provincial results; this gives us an indication of how anglophone immersion students in the PSBGM scored relative to francophone students throughout the province "on the same exams[2]."; (2) looking at the seven exams which are available in English and French - - compare the school results on the French exams to the board results on the English exams - - this gives us an indication of how anglophone students who took the special French courses scored relative to other anglophone students who took the corresponding English courses on the same basic exams; and (3) looking only at the results of the seven exams in English - - compare the board results with the provincial results; this gives us an indication of how anglophone students in the PSBGM scored relative to other anglophone students throughout the province on these select few exams.

1) French-French Comparison

A comparison of the average grade scores for the schools and for the province as a whole indicates that on all 11 exams under consideration the average grade for the French immersion students was higher than the average provincial grade. The superiority of the school results over the provincial results varies greatly depending upon the particular exam. Nevertheless, these results indicate that, on the average, the anglophone students in the PSBGM who took some of the special post-immersion French courses in secondary school and wrote the corresponding departmental exams in June 1975 scored higher than francophone students in Quebec who took the same courses and wrote the same exams.

This pattern of superiority is reinforced by the failure rate data. The failure rate of the PSBGM schools which offered these particular French courses was lower than the failure rate for the rest of the province as a whole on all exams except Français 921 (Compréhension de Texte), where there was essentially no difference between the school ($\bar{X}$=13.28)

2. See Footnote 2.

* indicates 100% multiple-choice exam
** indicates 50% multiple-choice exam

TABLE 6

ANALYSIS 2

		Number of Students Writing Exam	Average Grade Score	Average Failure Rate
(1) Français-Expression Orale 422 560 - 421				
Dorval Mount Royal Riverdale Wagar Westhill	Sch.[1.]	235	76.46	0.98%
	Brd.[2.]	319	74.05	0.94%
	Prov.[3.]	49213	64.77	7.50%
(2) Français-Comprehension de Texte 422 560 - 921				
Dorval Mount Royal Wagar Westhill	Sch.	222	65.02	13.28%
	Brd.	302	67.13	8.94%
	Prov.	46213	63.26	12.28%
(3) Français (théâtre et essai) 560 - 552				
Lachine Mount Royal	Sch.	101	73.08	0.85%
	Brd.	101	73.08	0.85%
	Prov.	1584	68.87	5.87%
(4) Français (poésie et roman) 560 - 542				
Riverdale Sir W.Churchill	Sch.	34	78.61	0.00%
	Brd.	87	68.91	11.49%
	Prov.	635	67.78	9.13%
(5) Géographie * 300 - 412				
Malcolm Campbell Riverdale Sir W.Churchill	Sch.	129	66.44	8.24%
	Brd.	129	66.44	8.24%
	Prov.	91225	58.04	25.71%

		Number of students Writing Exam	Average Grade Score	Average Failure Rate
(6) Geography * 300 - 412				
	Brd.	1323	60.53	19.95%
	Prov.	9566	60.27	20.44%
(7) Histoire * 305 - 412				
Malcolm Campbell Montreal West Mount Royal Riverdale Sir W.Churchill Wagar Westhill	Sch.	288	66.22	2.72%
	Brd.	435	65.00	8.50%
	Prov.	42274	58.93	24.26%
(8) History * 305 - 412				
	Brd.	3356	60.10	21.45%
	Prov.	13580	59.52	22.34%
(9) Dactylo 111-1V (40)				
Riverdale Sir W.Churchill	Sch.	68	73.06	2.24%
	Brd.	95	65.62	9.47%
	Prov.	34452	69.36	10.50%
(10) Typewriting 111-1V (40)				
	Brd.	1972	59.89	27.28%
	Prov.	7968	64.98	16.88%
(11) Mathématique ** 211 - 422				
Riverdale Verdun	Sch.	92	71.22	4.75%
	Brd.	147	68.07	10.27%
	Prov.	39593	56.82	28.45%

		Number of students Writing Exam	Average Grade Score	Average Failure Rate
(12) Mathematics ** 211 - 422				
	Brd.	3683	59.86	24.70%
	Prov.	14512	59.60	24.56%
(13) Mathématique * 211 - 522				
Verdun	Sch.	21	62.76	9.52%
	Brd.	47	57.48	25.53%
	Prov.	27657	57.08	24.31%
(14) Mathematics * 211 - 522				
	Brd.	1628	63.49	15.76%
	Prov.	7192	61.63	19.14%
(15) Arts Plastiques 500 - 422				
Wagar	Sch.	24	63.70	12.50%
	Brd.	24	63.70	12.50%
	Prov.	1720	62.39	14.70%
(16) Art 500 - 422				
	Brd.	53	59.69	26.41%
	Prov.	416	64.78	10.33%
(17) Histoire * 305 - 512				
Westhill	Sch.	16	74.37	0.00%
	Brd.	27	69.25	0.00%
	Prov.	13016	62.45	18.89%
(18) History * 305 - 512				
	Brd.	1564	66.98	16.36%
	Prov.	6206	64.74	19.01%

*

and provincial ($\bar{X}$=12.28%) rates.

Again, it must be borne in mind when interpreting these results that the students comprising the school samples under consideration are probably more advantaged on the average than the students who comprise the provincial student population. Furthermore, there is undoubtedly less variation in socio-economic and academic ability levels among the students from the school samples under consideration than among the population of students comprising the provincial group. Notwithstanding these qualifications, these results are indeed very positive.

(2) French - English Comparison

The purpose of this comparison is to assess the performance of anglophone students in the PSBGM who are taking special post-immersion courses in French relative to their anglophone peers, also in the PSBGM, who are taking the corresponding courses in English. Again, differences in socio-economic and academic ability factors between these two groups must be kept in mind. This comparison was based on the results of seven departmental examinations - - see Table 6.

On six of the seven examinations the students who wrote the French version of the examination scored higher than the students who wrote the English version. In the case of Mathématique/Mathematics 522 (the one exception) there was essentially no difference between the school results and the board results. The differences varied somewhat from exam to exam - - the smallest difference being 4 grade points, and the largest difference being 11 grade points. Thus, it would appear that, ceteris paribus, the immersion students are achieving at the same level as, or higher in most cases, in the special post-immersion courses than are other anglophone students in the PSBGM taking the same courses in English.

Inspection of the failure rate data indicates that the failure rate on all the English exams was higher than the failure rate on the corresponding

French exams, thereby supporting the grade score pattern. The differences here were always sizeable - - the smallest being 6% (Geog.) and the largest being 25.04% (Dactylo/typewriting).

Thus, there is no evidence from these data that the immersion students are falling behind the non-immersion students in the learning of content material, even when that learning takes place in French.

(3) English - English Comparison

The purpose of this comparison is to compare the achievement of anglophone student. in the PSBGM to that of other anglophone students throughout the province on the same exams under consideration. It should be pointed out that these courses were not selected specifically for this comparison and, therefore, are not intended to be particularly relevant or significant.

The results of both the grade scores and the failure rates are mixed. The board grade scores and failure rates were higher than those of the province on two of the exams under consideration; they were lower than the provincial results on two other exams; and there were no differences between board and provincial results on the remaining three exams.

Thus, these results suggest that anglophone students in the PSBGM are doing better than, poorer than, or as well as other anglophone students in Quebec as a whole depending upon the particular exam under consideration.

In summary, the results from Analysis 2 of the June 1973 Ministry of Education examinations indicates that:

1) students in schools of the PSBGM who enrolled in special post-immersion French courses, on the average, scored higher on the corresponding departmental exams than their francophone peers in the rest of Quebec taking the same courses; these

examinations included examinations of Français langue maternelle, histoire, géographie, mathématique, dactylo and arts plastiques;

2) students enrolled in the special post-immersion French courses on the average scored higher on the departmental exams than their anglophone peers also in schools of the PSBGM taking the corresponding English courses; and

3) the performance of non-immersion students in the PSBGM on these few departmental exams was somewhat variable relative to provincial results.

It should be mentioned again at this time that interpretation of these results must be qualified in accordance with the variability of socio-economic, academic and geographical factors among the different groups under discussion.

DISCUSSION and SUMMARY

Interpretation of these results must take into consideration the extremely small sample sizes. Notwithstanding this qualification, the results are consistent with the results of the 1973-1974 grade 11 evaluation (see Genesee, Allister and Morin, 1974) and with previous grade 7 evaluations (see Polich, 1973; Genesee, Morin & Allister, 1974).

The Immersion and English Control students scored equally well on the English language achievement tests - - reading, vocabulary and spelling.

The Immersion students scored higher than the English Control students on the French reading test, the Test de Rendement en Français and on all dimensions of the oral production evaluation. There were no significant differences between the Immersion and English Control groups on the Test de Rendement en Mathématiques and on the group listening comprehension test. The failure to find differences on these latter two tests may reflect the essentially non-verbal nature of the mathematics test and the difficulty of the listening comprehension test.

The French Control group scored higher than the English Control group on all of the French language tests, and higher than the Immersion group on all but two of these tests, the exceptions being the compréhension subtest of the Test de Lecture and the compréhension aurale dimension of the production orale evaluation. The ratings of the Immersion ($\bar{X}$=4.99) and the English Control ($\bar{X}$=4.70) groups on the individual listening comprehension dimension were extremely high as was the rating on grammaire for the Immersion group ($\bar{X}$=4.37).

The above average students scored higher than the average students on the Test de Lecture, and on the Tests de Rendement en Français and en Mathématiques. This finding replicates similar findings in the 1973-74 grade 11, grade 7 and grade 4 evaluations and in the 1974-75 grade 5 and 7 evaluations.

The above average students also scored higher than the average students on the prononciation, grammaire and communication dimensions of the production orale evaluation. However, there were no significant differences between the average and above average students on the group listening comprehension test or on the compréhension aurale and vocabulaire dimensions of the production orale evaluation. Thus, these results only partially corroborate previous findings which consistently failed to demonstrate an association between I.Q. level and ratings of interpersonal communication skills. The discrepancy between the current results and previous results may be attributable to the extremely small sample sizes in this evaluation and a concomitant bias in the students who participated.

The performance of the Immersion group relative to the French Control group on the Test de Rendement is noteworthy - - the Immersion students on the average scored higher than the French Control students on both of these tests. The English Control group also scored higher than the French Control group on the Test de Rendement en Mathématiques. The superiority of the two anglophone groups on the math test probably reflects the relative quality of the respective mathematics curricula rather than the level of language skills per se. It must also be kept in mind that the anglophone groups wrote these tests in grade 11, two full years later than the French Control group which wrote them in the appropriate grade, namely grade 9. Nevertheless, the performance of the Immersion students on these tests is significant.

Finally, the results from the Ministry of Education Leaving Examinations are extremely significant. Detailed summaries of these results have been

presented elsewhere (see pages 15 to 27). Very briefly, the analyses of these results indicate that Immersion students in the PSBGM scored higher than francophone students throughout Quebec on all 11 French language departmental exams under consideration. At the same time, the Immersion students scored higher on a number of French language exams than did non-immersion students on the English language version of the corresponding exams. These findings suggest that the immersion students are not falling behind their non-immersion peers in the learning of content material even when that learning takes place in French, and that the immersion students are able to perform at least as well as francophone students in Quebec on government-set examinations.

Continued monitoring of the Departmental Leaving Examination Results in the coming years is required in order to validate these findings. A second follow-up evaluation of grade 11 students is currently underway. The students participating in this evaluation represent a broad range of academic achievement levels unlike the students in the current evaluation who were somewhat select.

References

Genesee, F. Students' attitudes toward French immersion. A report submitted to The Protestant School Board of Greater Montreal, 1974.

Genesee, F., Allister, T., & Morin, S. Evaluation of the 1973-74 Grade 11 French immersion class. A report submitted to The Protestant School Board of Greater Montreal, 1974.

Genesee, F., Morin, S., & Allister, T. Evaluation of the 1973-74 Grade 4 French immersion class. A report submitted to The Protestant School Board of Greater Montreal, 1974.

Genesee, F., Morin, S., & Allister, T. Evaluation of the 1973-74 Grade 7 French immersion class - - June 1974. A report submitted to The Protestant School Board of Greater Montreal, 1974.

Polich, E. Report on the evaluation of the Grade 7 French immersion programme. A report submitted to The Protestant School Board of Greater Montreal, 1973.

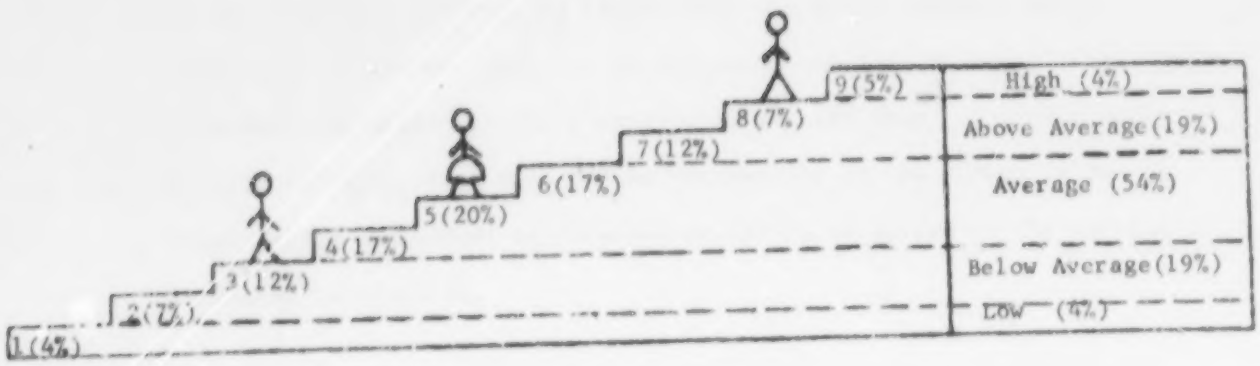
APPENDIX A

INTERPRETATION OF STANINE SCORES

S·T A N I N E

The stanine scale is a simple nine point scale of standard scores. The word stanine was derived for STAndard NINE-point scale .

In this scale, raw scores are converted to scores which range from 1 (low) to 9 (high) with a mean of 5 and a standard deviation of 2.



APPENDIX B

Analysis of variance is a mathematical procedure for testing the statistical reliability of the differences among a series of mean scores. Stated simply, an analysis of variance estimates how much of the variability in the test scores is due to the systematic effects of the experimental treatment which in the current report is the school language program and how much of the variability is due to non-systematic influences such as individual differences among the children. The first estimate is generally called the "treatment variance" and the second estimate is called the "error variance". The ratio of the treatment variance to the error variance is called an F ratio. If the treatment variance is larger than the error variance the F ratio will be greater than 1. If the error variance is larger than the treatment variance then the F ratio will be less than 1. A very small F ratio indicates that most of the variability in the scores is due to unsystematic individual differences which are unrelated to the particular treatment in question.

To decide whether a particular F ratio is "significant" and, in other words, whether there is a significant difference between the average scores, one must determine the probability (or p value) of obtaining an F ratio of a certain magnitude. The p value can be ascertained easily with the assistance of standard mathematical tables, that have already been set up, and a knowledge of the "degrees of freedom" for your

../.

particular experiment. There is a degrees of freedom value associated with the numerator, or treatment variance, of the F ratio, and a degrees of freedom value associated with the denominator, or error variance, of the F ratio. There is no brief way of discussing the calculation or significance of degrees of freedom so that for the sake of this explanation they will be not discussed further.

According to tradition, the probability (or p value) associated with a particular F ratio must be 5 out of 100 (i.e., .05) or less ($p \leq .05$) before one calls the difference between the averages "significant". If the p value is greater than 5 out of 100 (i.e., $> .05$), then one calls the difference between the averages "non insignificant". What one is saying when one says "$p \leq .05$" is that the probability of getting a particular F ratio, and, therefore, a particular difference between average scores is less than 5 in 100 by chance alone. One then goes on to assume that since the probability is relatively low, that the difference between the mean scores is probably due to the treatment and not to chance or uncontrolled influences. In other words, the treatment (or language of schooling in this report) has had a significant influence on the students' performance on the language tests. Of course, the converse rationale holds for the reverse situation where $p > .05$.

This explanation of analysis of variance, F ratios, p values and significance is of necessity brief, but hopefully will faciliate

../.

the reader's understanding of the report.. More thorough and mathematical descriptions of these concepts can be found in Statistical Analysis for Psychology and Education, 3rd ed., G.A.Ferguson, McGraw-Hill, 1971, and Statistical Principles in Experimental Design, 2nd ed., B.J.Winer, McGraw-Hill, 1971.

1973 - 1974

SUMMARY OF ENGLISH-LANGUAGE TEST RESULTS

TEST	SCHOOL GROUP					I. Q. GROUP			
	Experimental 1	Experimental 2	English Control	F	P	Above	Average	F	P
I. Q.	117.14	115.49	115.56	1.07	.05	124.90	107.23	287.41	<.001
Reading	78.64	76.07	72.07	1.46	.23	81.88	69.30	15.85	<.001
Spelling	77.91	75.66	72.10	1.42	.25	83.98	66.47	37.90	<.001
Vocabulary	78.28	78.42	71.77	2.84	.26	83.17	69.14	29.07	<.001
Writing Skills									
- Spelling	3.97	3.99	3.76	1.35	.26	3.94	3.88	.19	.66
- Sentence Accuracy	2.83	3.05	2.73	1.76	.17	2.97	2.77	1.87	.17
- Sentence Complexity	2.75	2.86	2.62	1.12	.33	2.83	2.66	1.62	.21
- Organization	2.59	2.90	2.46	4.51	.01	2.75	2.55	2.74	.10
- Originality	1.91	2.04	1.79	1.48	.23	1.97	1.85	1.06	.31
- Overall	2.59	2.79	2.46	1.54	.22	2.78	2.44	4.69	.03
Punctuation									
- Appropriate	94%	85%	86%						
- Inappropriate	6%	15%	14%						
Length									
- Appropriate	54%	72%	56%						
- Inappropriate	46%	28%	44%						
Vocabulary									
- Superior	37	19	24						
- Average	60	70	76						
- Below Average	3	11	0						

1973 - 1974

SUMMARY OF FRENCH-LANGUAGE TEST RESULTS

TEST	SCHOOL GROUP						I. Q. GROUP *			
	Experimental 1	Experimental 2	English Control	French Control	F	p	Above	Average	F	p
Reading	15.04	14.85	13.12	15.31	12.90	<.001	14.90	13.78	12.07	<.001
Test de Rendement Français										
- raw scores	22.69	22.94	20.52	26.38	12.24	<.001	23.80	20.31	23.99	.01
- stanines	5.65	5.82	5.12	6.38	5.00	< .01	5.98	5.08	16.57	<.001
Test de Rendement Mathématiques										
- raw scores	24.55	24.68	22.84	20.01	8.50	<.001	25.81	22.24	26.56	<.001
- stanines	7.87	7.84	7.34	6.49	8.87	<.001	8.23	7.14	28.18	<.001
Listening Comprehension	10.14	9.35	8.28	8.89	3.60	< .01	9.37	9.09	.31	.58
Oral Production										
- Comprehension	4.67	4.64	4.06	5.00	5.85	< .05	4.49	4.42	.25	>.05
- Pronunciation	3.82	3.72	3.41	5.00	2.64	> .05	3.56	3.74	1.31	>.05
- Grammar	3.81	3.71	3.35	5.00	3.68	< .05	3.54	3.69	.71	>.05
- Vocabulary	3.62	3.46	3.06	5.00	3.65	< .05	3.31	3.45	.73	>.05
- Communication	4.22	4.18	3.59	5.00	4.33	< .05	3.94	4.05	.25	>.05

* This distinction applies only to the three Anglophone Groups (E1, E2 and E.C.)

APPENDIX D

APPENDIX E

SUMMARY OF NEWMAN-KEULS TEST RESULTS
FOR FRENCH LANGUAGE TESTS [1].

TEST DE LECTURE:

a) VOCABULAIRE

Immersion	English Control	French Control
67.91	58.18	74.74

b) COMPREHENSION

Immersion	English Control	French Control
19.98	17.16	19.14

COMPREHENSION AURALE

Immersion	English Control	French Control
5.89	5.01	7.50

PRODUCTION ORALE:

a) COMPREHENSION AURALE

Immersion	English Control	French Control
4.99	4.70	5.00

b) PRONONCIATION

Immersion	English Control	French Control
3.81	2.97	5.00

1. Groups joined by a line are significantly different from one another; e.g. Test de Lecture (vocabulaire): the English Control group scored significantly lower than the Immersion group and than the French Control group.

c) GRAMMAIRE

Immersion	English Control	French Control
4.37	3.64	4.96

d) VOCABULAIRE

Immersion	English Control	French Control
3.99	2.90	5.00

e) COMMUNICATION

Immersion	English Control	French Control
3.67	2.74	4.95

FOOTNOTES

1. Both the Immersion and the No Longer Immersion groups have taken the grade 7 French Immersion program and some of the optional French courses after grade 7. The difference between the Immersion group and No Longer Immersion group is that Immersion group was still taking optional French courses in grade 11 whereas the No Longer Immersion group was not. These two groups constituted the original intended immersion samples for this evaluation and, consequently, were selected to be equivalent in terms of I.Q. and to include an equal number of males and females. Owing to the poor student participation on the testing, the final sample of Immersion students whose results have been presented in earlier parts of this report are but a sub-sample of these original samples.

2. The following examinations were actually set by each school board: Français 560-552, Français 560-542, Mathématique 211-422, Dactylor 111-1V (40) and Arts Plastique 500-422. Thus, it is not really accurate to say that the school and provincial scores on these exams reflects performance on the <u>same</u> exams. Since the course guidelines, however, were the same, one could consider that the locally-set examinations for these courses were intended to measure acquisition of essentially the same material.